

Open flame and high temperatures - Do not expose rope to flame or high temperatures as it will melt or burn causing rope failure. The temperature at which 50% strength loss can occur in new and unused ropes is 177°C (350°F).

Accidental dynamic loading - Although low elongation rope is designed to help absorb the energy of accidental dynamic loading, the user is responsible for checking rigging to avoid dynamic loading in any manner whatsoever. Working loads are not applicable when rope is subject to significant dynamic loading. When a load is picked up, stopped, moved, or swung, there is an increased force due to dynamic loading. The more rapidly or suddenly such actions occur, the greater the increase force will be. In extreme cases, the force put on the rope may be two, three, or even more times the normal load involved. If accidental dynamic loading does occur, the rope must be retired and destroyed.

Proper rappelling and belaying techniques - Fast rappels, bounding or swinging, positioning the rope over a sharp edge, dynamically loading a low elongation / static rope are some of the examples of uses that damage your rope and will cause failure and injury or death. Any belay device, ascender, descender or similar hardware will put bends in a rope and have the potential to contribute to rope abrasion. Avoid all worn out hardware as it can destroy your rope. Fast rappels will cause excessive heat from friction that will damage your rope. This heat will melt the sheath fibers causing a glazing or stiffening effect that shortens the life of your rope. Always take care to rappel and lower slowly and in control.

Chemical contamination - Protect your rope from exposure to harsh chemicals. Exposure to chemicals will cause failure that can result in injury or death. DO NOT allow your rope to come into contact with any compounds containing acids, alkalis, oxidizing agents, phenol or bleaching compounds. Be especially careful to avoid contact with battery acid. Contaminants can be in the form of liquids, solids, mists and vapors. Contamination may, or may not, be visible and may, or may not be, detectable. If you suspect your rope has been contaminated it must be destroyed by cutting into unusable sections to prevent future use by anyone.

Ultraviolet ray exposure - Ropes should always be stored in a rope bag to reduce the possibility of exposure to contaminants and unnecessary exposure to Ultraviolet [UV] rays. Solar degradation should be checked by rubbing the surface of the rope with your thumbnail. If degradation has taken place, the surface material will come off as powder.

### CARRYING, MAINTENANCE & STORAGE

During all use, carrying, storage, and transport keep the equipment away from acids, alkalis, exhaust emissions, rust and strong chemicals. Do not expose the equipment to direct heat, flame, or high temperatures or other adverse environmental conditions.

If the equipment becomes soiled, it can be washed in cold water with a mild detergent. Soak the rope for about 30 minutes in a plastic tub of water with a mild detergent that is safe to use with nylon and/or polyester. Do not use any cleaners with bleach or bleach substitutes. Rinse the rope thoroughly. It is recommended to pull it through a rope washer twice. Do not use a pressure washer. Air dry in temperatures between 10° C and 30° C. Do not dry the equipment in direct sunlight or using an automatic dryer. Hang the rope in a cool, shady place to dry. Do not dry nylon or polyester products in the sun because of the damaging effects on the fibers from prolonged exposure to ultraviolet rays. During storage and transport, protect the equipment from heat, direct sunlight, moisture, chemicals, and external loads or impacts. If rope has been stored at elevated temperatures over an extended period, it can fail under loads below its rated breaking strength. Consult with the manufacturer in case of any doubt.


### WARRANTY & REPAIRS

If your CMC product has a defect due to workmanship or materials, please contact CMC Customer Support at [info@cmcpro.com](mailto:info@cmcpro.com) for warranty information and service. CMC's warranty does not cover damages caused by improper care, improper use, alterations and modifications, accidental damage or the natural breakdown of material over extended use and time. All repair work shall be performed by the manufacturer. All other work or modifications void the warranty and releases CMC from all liability and responsibility as the manufacturer.

### SAMPLE INSPECTION AND MAINTENANCE LOG


The following sample log provides an example of the records that should be maintained by the purchaser or user of life safety equipment.

EQUIPMENT INSPECTION AND MAINTENANCE LOG			
Item # _____		Date in Service _____	
Brand/Model _____		Strength _____	
Date	How Used or Maintained	Comments	Name

 Find the latest version of this manual at [cmcpro.com](http://cmcpro.com).



**CMC Rescue, Inc.**  
6740 Cortona Drive  
Goleta, CA 93117, USA  
805-562-9120 / 800-235-5741  
[cmcpro.com](http://cmcpro.com)

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CMC Control No.: 2728X0IN01\_Rev00

MEETS THE LIFE SAFETY ROPE REQUIREMENTS OF NFPA 1983, INCORPORATED IN THE 2022 EDITION OF NFPA 2500.

2728X0, CMC LIFELINE™, 11 MM

- CLASS: TECHNICAL-USE ROPE
- MINIMUM BREAKING STRENGTH: 28.6 kN (6,421 LBF)
- CERTIFIED DIAMETER: 11 MM (7/16 IN)
- TYPE OF FIBER(S): NYLON
- ELONGATION AT 1.35 KN (300 LBF): 2.7%
- ELONGATION AT 2.7 KN (600 LBF): 5.6%
- ELONGATION AT 4.4 KN (1,000 LBF): 8.7%

2732X0, CMC LIFELINE™, 13 MM

- CLASS: GENERAL-USE ROPE
- MINIMUM BREAKING STRENGTH: 41.3 kN (9,285 LBF)
- CERTIFIED DIAMETER: 13 MM (1/2 IN)
- TYPE OF FIBER(S): NYLON
- ELONGATION AT 1.35 KN (300 LBF): 2.0%
- ELONGATION AT 2.7 KN (600 LBF): 4.0%
- ELONGATION AT 4.4 KN (1,000 LBF): 6.6%

2732X0, CMC LIFELINE™, 15.5 MM

- CLASS: GENERAL-USE ROPE
- MINIMUM BREAKING STRENGTH: 49.9 kN (11,227 LBF)
- CERTIFIED DIAMETER: 15.5 MM (5/8 IN)
- TYPE OF FIBER(S): NYLON
- ELONGATION AT 1.35 KN (300 LBF): 1.2%
- ELONGATION AT 2.7 KN (600 LBF): 2.6%
- ELONGATION AT 4.4 KN (1,000 LBF): 4.8%

CERTIFICATION APPLIES TO ROPE ONLY, WITHOUT TERMINATIONS

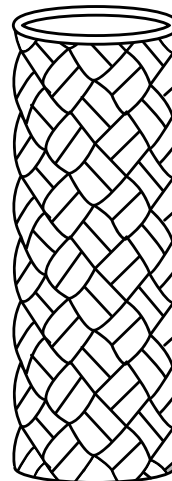


PART #:  
DESCRIPTION:  
LENGTH:  
MFG LOT #:  
MFG LOT DATE:  
CUT DATE:  
CUT BY:

Manufactured by Teufelberger Fiber Rope Corp.  
848 Airport Road, Fall River, MA 02720



CMC LIFELINE™



### ⚠ WARNINGS

Activities involving the use of this device are potentially dangerous. You are responsible for your own actions and decisions. Before using this device, you must:

- Read and understand these user instructions, labels, and warnings.
- Familiarize yourself with its capabilities and limitations.
- Obtain specific training in its proper use.
- Understand and accept the risks involved.

FAILURE TO HEED ANY OF THESE WARNINGS MAY RESULT IN SEVERE INJURY OR DEATH.

## Legend



Imminent risk of serious injury or death.



Appropriate function or use.

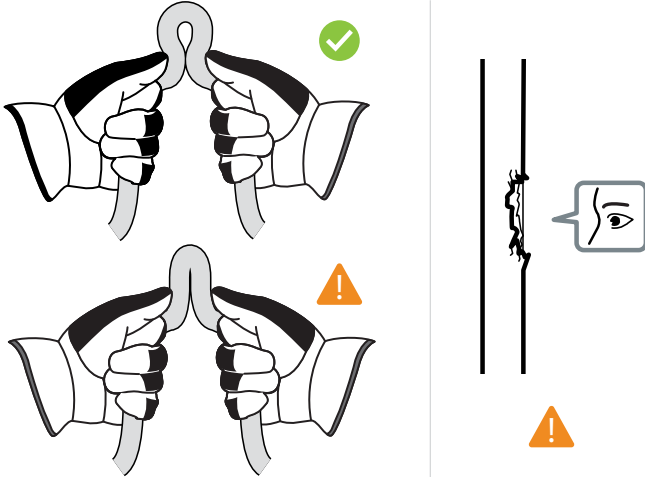


Imminent risk of accident or injury.



Equipment incompatibility.

## Before Each Use



## Carrying, Maintenance, Storage & Transport



MAX 30°C  
(MAX 86°F)



MILD



MAX 30°C  
(MAX 86°F)



## USER INFORMATION

User Information shall be provided to the user of the product. NFPA Standard 1983, incorporated into the 2022 edition of NFPA 2500 recommends separating the User Information from the equipment and retaining the information in a permanent record. The standard also recommends making a copy of the User Information to keep with the equipment and that the information should be referred to before and after each use.

Additional information regarding life safety equipment can be found in NFPA 1500 and NFPA 1858 and NFPA 1983, incorporated in the 2022 edition of NFPA 2500.

## LIFESPAN / INSPECTION / RETIREMENT

The equipment has a lifespan of 10 years from the date of manufacture shown on the product label. The type of use, intensity of use, and environment of use are all factors in determining serviceability of the equipment. A single exceptional event can be cause for retirement after only one use, such as exposure to sharp edges, extreme temperatures, chemicals, or harsh environments. Any concerns about its safe use is cause for retirement. Remove retired equipment from service and destroy it to prevent further use.

Equipment must be retired when:

- It has reached the 10 year age limit.
- It has been subjected to a major event (fall, shockload etc.).
- It has been exposed to extreme environments (sharp edges, high temperatures, corrosive environment etc.) or become contaminated (chemicals etc.).
- It fails to pass inspection or there are any doubts about its reliability.
- It has an uncertain usage history.
- It becomes obsolete due to changes in legislation, standards, technique or compatibility

Inspect the equipment according to your department's policy for inspecting life safety equipment. CMC recommends a detailed inspection by a competent person at least once every 12 months depending on current regulations and conditions of use. Record the date, inspector name, and inspection results in the equipment log as well as any other relevant information to track the usage history.

Before and after each use, the user should:

- Check the equipment for signs of wear, damage, or contamination. See the specific Inspection Criteria in the following section.
- Check for the presence of dirt or foreign objects that can affect or prevent normal operation (e.g. grit, sand, etc.).

During each use, the user should:

- Monitor the condition of the product. Hazards may affect the performance of the equipment such as extreme temperatures, sharp edges, chemical reagents, electrical conductivity, cutting, abrasion, climatic exposure, and pendulum falls.
- Evaluate environmental conditions. Damp or icy environments can alter the behavior of the product.
- Check the condition of attachment points and the connections to other equipment in the system.
- Make sure that all pieces of equipment in the system are correctly positioned with respect to each other.
- Connectors should be loaded in their strongest orientation.

## INSPECTION CRITERIA

Inspecting a life safety rope involves visually looking for damage, feeling for damage, and checking the rope's history in the rope log. Inspect a new rope before it is put into service and then after each use. The inspection should be done by an experienced person deemed qualified by the agency/organization.

A complete inspection includes a visual and a tactile inspection. Visually inspect the sheath to identify chafed areas, glazed surfaces, discoloration, or variations in diameter. These areas should receive additional scrutiny during the tactile inspection. Look for areas of abrasion or cuts in the sheath where the core is exposed or enough of the sheath is worn that its ability to protect the core is compromised. The tactile inspection should be done with tension on the rope. Feel for variations in size and soft or hard spots that could indicate damage to the core or rope that has been overstressed. Specific inspection criteria are listed below.

**Abrasion / Sheath Wear** - rope maybe severely damaged if subjected to rough surfaces or sharp edges. Retire if the core is exposed or more than 1/4 of the outer sheath yarns are abraded. Exposed core fibers indicate severe sheath damage and possible core damage.

**Fraying** - indicates broken or damaged sheath bundles which is an indication of abrasion or overloading. A pulled strand can snag on foreign objects during a rope operation.

**Glazing** - glossy marks or hard, stiff areas may signify heat or friction damage. This can be caused by contact with a descender that has become overheated in a fast rappel.

**Discoloration** - a change in the rope's original color is an indication of chemical damage or exposure to the elements of nature including Ultraviolet [UV] radiation.

**Lack of Uniformity in Diameter or Size** - a depression in the diameter of the rope, lumpiness of the rope, or exposed core strands protruding from the rope may indicate core damage.

**Inconsistency in Texture** - possible indication of excessive wear. This is most often noted as soft or stiff areas in the rope. Both outer and inner rope fibers contribute to the strength of the rope. When either fibers are worn, the rope is weakened. A heavily-used rope will often become compacted or hard which indicates reduced strength.

**Use / Age** - We recommend a low elongation / static rope be removed from service no more than ten years from its manufactured date. Accurate record keeping, with a careful inspection program, are the best methods for determining when to remove a rope from service.

**Loss of Faith** - if you feel uncomfortable for any reason or suspect there may be a problem with your rope it should be retired and destroyed.

If any of the above are noted, the rope should be retired from service. If the rope has been subjected to shock loads, fall loads, or abuse other than normal rappel or rescue training, the rope should be retired from service. For more information on rope inspection, see the ASTM F1740 Standard Guide for Inspection of Nylon, Polyester, or Nylon/Polyester Blend, or both Kernmantle Rope.

## LIMITATIONS AND PROPER USE

This equipment is intended for use in rappelling, rescue, caving, military, rope access, and industrial applications. CMC Lifeline is constructed from nylon in the sheath and core. It is considered a low stretch kernmantle lifeline and must not be used in situations when the anchor point is below the user. Should the risk of free fall arise, a dynamic rope is recommended for use.

Be sure anchor points are suitable for the load to be applied. Remove "slack" in the rope between the user and anchor point prior to applying a load to reduce the possibility of accidentally subjecting the rope, anchor points, and persons to an accidental dynamic loading or impact force. Prior to use of this equipment, a suitable rescue plan should be prepared in the event of a mishap. Always check every piece of gear in the system to insure compatibility. Be sure the hardware you use is designed for the rope diameter you choose.

Never stand in line with rope under tension. If a rope or attachment fails, it can recoil with sufficient force to cause physical injury. Synthetic rope has higher recoil/snapback tendencies than natural fiber rope.

Reverse rope ends regularly. This permits even wearing and assures a longer useful life. When using tackle or slings, apply a steady even pull to get full strength from the rope.

Do not overload rope. Sudden strains or shock loading can cause failure. Avoid sudden strains or shock loads, which can exceed breaking strength. Shock loading can cause failure of a rope normally strong enough to handle the load.

Remove rope properly from coils or reels to prevent kinking. If the rope is in a coil, then it shall always be uncoiled from the inside. When a rope is on a reel, to remove pull it off the top while the reel is free to rotate. To accomplish this pass a pipe through the center of the reel and jacking both ends up in a horizontal position until the reel is free from the surface. To proceed in any other manner may cause kinks or hockels (strand distortion). When the ropes cut to shorter lengths, it is required that all markings repeat as on the original rope.

## ADDITIONAL GUIDANCE

**Sheath protection** - Take care to protect your rope from abrasion. Always use a proper rope pad or edge guard. Sheath damage is the most common cause of early rope retirement. Be sure to properly pad surfaces to which the rope is exposed. Be especially sure to inspect hardware for flaws that may damage the sheath strands.

**Rope cleanliness** - Dirt, mud, and grit will shorten the life of your rope by increasing internal and external abrasion. See the maintenance section for guidance on cleaning. Stepping on a rope has the potential to cause cuts and may grind grit into the core causing internal abrasion. A ground cloth should be used to keep the rope from being in direct contact with mud, dirt, and grit.